

REMARKS

Claims 2 and 4-24 are pending in the present application. Claims 1 and 3 were previously canceled. Claims 2 and 24 are independent. Favorable reconsideration and allowance of the present application are respectfully requested in view of the amendments and remarks made herein.

Interview Summary

Applicants thank the Examiner for the courtesies extended during the personal interview in the U. S. Patent and Trademark Office on September 24, 2009. During the Examiner Interview, claim features of independent claims 2 and 24 were discussed with reference to the applied art, particularly J.P. 2001-276484 and U.S. 5,603,843. To overcome the current rejection, the Examiner suggested that we more clearly recite the structure of the voltage application halt period in relation to a control unit. In other words, the Examiners agreed that the above-mentioned amendment may overcome the current rejection.

Prior Art Rejections

Claims 2, 4, 10-13, 17-20 and 24 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over JP 2001-276484 in view of Snee ("Snee", U.S. 5,603,843). Claims 5-9, 14-16 and 21-23 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over JP 2001-276484 in view of Snee ("Snee", U.S. 5,603,843) further in view of Robey or JP 2000-343081.

The Examiner has not given patentable weight to many of the features of the independent and dependent claims (*See Office Action, Pages 2-3*). The Examiner asserts that because there are no differences in structure, the structure presented in the combination of references is capable of performing the "functional limitations" of the current invention. However, functional elements should be considered during claim analysis. In *Clements Industries Inc. v. A. Meyers & Sons Corp.*, 12 USPQ2d 1874 (SD NY 1989), the Court stated "We are aware that functional language such as that here at issue ... is allowed in claims and is entitled to full weight in claim analysis" citing to *In re Swinehart and Sfiligoj*, 169 USPQ 226 (CCPA 1971). Therefore, in

accordance with U.S. case law, the Examiner is not free to ignore functional language and must give this language patentable weight.

Moreover, even for the different structural items claimed in the independent and dependent claims, such as the water feed valve, electrodes being disposed along water current fed, a current detection unit, controller, etc., the Examiner has not provided specific citations as to where in the references these features are taught or suggested and the Examiner generally alleges that the combination of JP 2001-276484 and Snee “teaches the structures of the instant application, such as the drive circuit, electrodes, and water feed valve” and Robey and JP 2000-343081 teach “controller detail, current detection, flow rate detection and warning indicators” (*See Office Action, Page 2*). There have been no specific citations to structures in the art for which there are equivalent structures in the claimed invention.

However, in the interest of expediting prosecution, Applicants have amended independent claims 2 and 24 to recite, *inter alia*, “**a control unit configured to control the drive circuit to reverse polarities of the electrodes cyclically by alternating a voltage application period with a voltage application halt period when the water feed valve is feeding water to the ion elution unit**”. It is clear that neither JP 2001-276484 nor Snee actually contain a control unit configured to reverse polarities of electrodes *by alternating a voltage application period with a voltage application halt period*. In fact, in the outstanding Office Action, a reference has not even been applied to this feature.

Moreover, this feature provides a significant advantage over the applied art, which simply do not discuss voltage application halt periods. According to the Applicants’ Specification, on Pages 3-4:

In an ion elution unit that generates metal ions by applying a voltage between electrodes by a drive circuit, polarities of the electrodes are reversed cyclically with a voltage application halt period placed in-between. With this configuration, because of polarity reversal, scale or other substances precipitated during a cathode period are eluted during an anode period. This prevents accumulation of scale or other substances on the surface of electrode and ensures stable elution of metal ions. In addition, **during the voltage application halt period between polarity reversal, the metal ions eluted from an electrode that was then an anode, can go far from the electrode.** Thus, the metal ions do

not return to the electrode where they have been eluted from even when the electrode is inverted to a cathode. As a result, electric power consumed in metal ion elution will not be wasted, moreover, the situation that the expected total amount of metal ions is not obtained can be avoided. Furthermore, when the ion elution unit is incorporated in an appliance, metal ions are evenly dispersed in water due to the existence of the voltage application halt period. Therefore, the antimicrobial effect of the metal ions is exerted evenly over a wide area. (*emphasis added*)

Thus, the claimed invention provides a significant advantage over JP 2001-276484 and Snee, as noted in the Applicants' Specification. Neither JP 2001-276484 nor Snee contemplated alternating a voltage application halt period with a voltage application period to achieve this significant advantage.

For at least the reasons stated above, independent claims 2 and 24 are patentably distinct from JP 2001-276484 and Snee. Claims 4-23 are at least allowable by virtue of their dependency on corresponding allowable independent claim. Moreover, neither Robey nor JP 2000-343081 remedy the noted deficiencies of JP 2001-276484 and Snee.

Accordingly, it is respectfully requested to withdraw this obviousness rejection of claims 2 and 4-24 based on JP 2001-276484 and Snee.

CONCLUSION

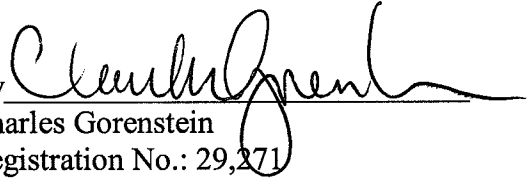
In view of the above amendment and remarks, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application; the Examiner is respectfully requested to contact Charu K. Mehta, Reg. No. 62,913 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

Dated: September 30, 2009

Respectfully submitted,

By 
Charles Gorenstein
Registration No.: 29,271

BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road, Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants